REMARKS

The Office Action dated October 17, 2007 has been received and carefully noted. The above amendments to the specification, figures and claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1 and 10-11 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added and no new issues are raised which require further consideration or search.

The drawings were objected to because FIG. 1 contained an error with respect to the connecting line associated with reference numeral "2." Applicants have submitted a replacement drawing for FIG.1 which correctly illustrates the connecting line of reference numeral "2" as extending beyond the first dotted line of reference numeral "1" to indicate the second dotted line. Therefore, the error in FIG. 1 has been corrected. Withdrawal of the objection is kindly requested.

The specification has been objected to for containing minor informalities. In an effort to correct those informalities, paragraphs [0048], [0053], [0055], [0056] and [0124] of the specification have been amended to correct misspelled words and to correct mislabeled drawing reference numerals. Withdrawal of the objection is kindly requested.

Claim 11 was objected to for containing a minor spelling informality. Applicants have amended claim 11 to overcome that informality. Withdrawal of the objection is kindly requested.

Claims 1-2 and 5-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,556,892 to Kuroki et al. in view of Patent Abstract of Japan JP03-006710 to Yoshinori. The Office Action alleged that the combination of teachings in Kuroki and Yoshinori disclose all of the subject matter recited in independent claim 1. However, Kuroki and Yoshinori, individually or combined, fail to teach or suggest all of the subject matter recited in amended independent claim 1. This rejection is respectfully traversed for at least the following reasons.

Claim 1, upon which claim 2-9 are dependent, recites an apparatus for controlling a movable robot comprising a camera, moving means, and a device for outputting a sound. That apparatus includes means for recognizing a subject to be followed up, which recognizes the subject on the basis of an image taken by the camera, and means for recognizing a distance to from the subject having been recognized by the means for recognizing a subject to be followed up. The apparatus further includes means for controlling movement, which controls said moving means so as to keep the distance from said movable robot to the subject, having been recognized by said means for recognizing a distance to the subject, at a predetermined distance, and means for controlling the outputting of a sound, which outputs a sound or a voice related to the distance to the subject. The sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance.

Claim 10 recites a process for controlling a movable robot comprising a camera, moving means, and a device for outputting a sound. The process includes a step for recognizing a subject to be followed up, which recognizes the subject on the basis of an image taken by the camera, and a step for recognizing a distance to the subject having been recognized by the step for recognizing a subject to be followed up. The process further includes a step for controlling movement, which controls said moving means so as to keep the distance to the subject having been recognized by said step for recognizing a distance to the subject at a predetermined distance, and a step for controlling the outputting of a sound, which outputs a sound or a voice related to the distance to the subject. The sound or the voice from the step for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance.

Claim 11 recites a computer-readable medium encoded with a program for controlling a movable robot comprising a camera, moving means, and a device for outputting a sound. The program controls a computer to serves as means for recognizing a subject to be followed up, which recognizes the subject on the basis of an image taken by the camera, and means for recognizing a distance to the subject having been recognized by the means for recognizing a subject to be followed up. The computer further serves as means for controlling movement, which controls said moving means so as to keep the distance to the subject having been recognized by said means for recognizing a distance to the subject at a predetermined distance, and means for

controlling the outputting of a sound, which outputs a sound or a voice related to the distance to the subject. The sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance.

As will be discussed below, the combination of Kuroki and Yoshinori fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above. The rejection is respectfully traversed for at least the following reasons.

Kuroki discloses an image recognition unit 117 coupled to an image input device 251, such as, a camera (see column 8, lines 49-60). The image recognition unit 117 is capable of image recognition processing and may recognize gestures or hand movements of a human user. The image recognition unit is described as recognizing images, and the command interpreting unit 119 is described as analyzing gestures or hand movements of the human.

Kuroki does not disclose inputting an image as a subject to be followed by a robot. (Emphasis added) Kuroki only discloses identifying an image, via the image recognition unit 117, for the purpose of observing gestures or hand movements. The object or person is not identified as the object to be followed prior to engaging in a following operation performed by the robot. In another scenario of Kuroki, a different object other than the object to be followed could initiate hand movements or gestures. Neither the image recognition device 117 nor the command interpreting unit 119 performs "recognizing the

subject to be followed...on the basis of an image taken by the camera", as recited, in part, in claim 1. Therefore, Kuroki fails to disclose this feature of claim 1.

Kuroki also fails to disclose that the robot "outputs a sound or a voice related to the distance to the subject", as recited, in part, in claim 1. The Office Action relies on column 9, lines 16-22 of Kuroki as allegedly disclosing this feature of claim 1. Because Kuroki does not measure a distance to the subject, Kuroki cannot possibly teach outputting a sound or a voice related to the distance to the subject. Furthermore, the subject matter disclosed on column 9, lines 16-22 simply recites that the robot has a speech synthesis unit 120. Therefore, Kuroki fails to disclose this additional feature of claim 1.

With regard to Yoshinori, the Office Action alleged that Yoshinori discloses "means so as to keep the distance from said movable robot to the subject", the distance maintained being "a predetermined distance", as recited in claim 1. We disagree that Yoshinori cures the deficiencies of Kuroki and teaches or suggests those features of claim 1.

Yoshinori discloses a way to perform follow-up movement by a following robot that follows a subject. An image processor 6 analyzes an image of a person and measures a distance (d) from the person to the robot which performs the following operation. The distance to the person is measured by obtaining an elevation angle from the follower robot to the human's head. A speed control command and a direction control command are calculated and provided to a drive controller 7. The commands provide a follow-up movement response by the robot.

Yoshinori does not disclose using a "predetermined distance" and further does not disclose using the predetermined distance "so as to keep the distance from said movable robot to the subject", as recited, in part, in claim 1. Yoshinori simply measures a distance (d) and operates a corresponding speed control command. There is no teaching or suggestion by Yoshinori that a particular "predetermined distance" from the human is maintained by the follower robot. (Emphasis added) Therefore, Yoshinori fails to cure the deficiencies of Kuroki with respect to claim 1.

In addition to the above noted deficiencies of Kuroki and Yoshinori with respect to claim 1, Applicants submit that the combination of Kuroki and Yoshinori certainly fails to teach the newly added claim recitation of claim 1, which recites, "wherein the sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance."

Therefore, Applicants submit that Kuroki and Yoshinori, taken individually or in combination, fails to teach all of the subject matter recited in claim 1. By virtue of dependency claims 2-9 are also allowable over Kuroki and Yoshinori. Withdrawal of the rejection of claims 1-2 and 5-8 is respectfully requested.

Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kuroki in view of Yoshinori and further in view of UK Patent Application No. GB 2 258 098 to Na. The Office Action alleged that the combination of teachings in Kuroki, Yoshinori

and Na disclose all of the subject matter recited in claim 9. This rejection is respectfully traversed.

Kuroki and Yoshinori are discussed above. Na discloses a volume control apparatus that operates to control the volume level of output sound based on background noise. A suitable volume level is selected based on the level of background noise detected.

Claim 9 is dependent upon claim 1 and inherits all of the limitations thereof. As discussed above, the combination of Kuroki and Yoshinori fails to disclose or suggest all of the elements of claim 1. In addition, Na fails to cure the deficiencies in Kuroki and Yoshinori as Na also fails to disclose or suggest "wherein the sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance", as recited in claim 1. Accordingly, the combination of Kuroki, Yoshinori and Na fails to disclose or suggest all of the elements of claim 9. Furthermore, claim 9 should be allowed for at least its dependence upon claim 1, and for the specific limitations recited therein.

Claims 10-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kuroki in view of Yoshinori and further in view of JP Patent No. JP-2005202078-A to Shimomura. The Office Action alleged that the combination of teachings in Kuroki, Yoshinori and Shimomura disclose all of the subject matter recited in claims 10-11. This rejection is respectfully traversed.

As was discussed in detail above, neither Kuroki nor Yoshinori teach or suggest "recognizing a subject to be followed...on the basis of an image taken by the camera", "a sound or a voice related to the distance to the subject", "moving means so as to keep the distance from said movable robot to the subject", the distance maintained being "a predetermined distance", and "wherein the sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance", as recited, in part, in claims 1 and similarly in claims 10-11.

The additional cited reference Shimomura also fails to teach one or more of the above noted features of claims 1 and 10-11.

Shimomura discloses a robot that outputs a sound or voice related to the distance to the subject. A sound synthesis unit 48 outputs a sound depending on the distance to the subject by changing speed, volume or intonation of the speech. However, nowhere does Shimomura teach or suggest "wherein the sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep the distance from said movable robot to the subject at the predetermined distance", as recited, in part, in claims 1 and 10-11. (Emphasis added)

Shimomura does not teach a sound that informs the subject of the distance to the subject so as to prompt the subject to keep the distance from the movable robot to the

subject at the predetermined distance. Therefore, newly amended claims 1 and 10-11 clearly recite features which are not taught by any of the cited references.

Applicants submit that Kuroki, Yoshinori and Shimomura, taken individually or in combination, fail to teach all of the subject matter recited in independent claims 1 and 10-11. By virtue of dependency claims 2-9 are also allowable over Kuroki, Yoshinori and Shimomura. Withdrawal of the rejection of claims 10-11 is respectfully requested.

Claims 3-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kuroki in view of Yoshinori and further in view of U.S. Patent Publication No. 2004/0230340 to Fukuchi et al. The Office Action alleged that the combination of teachings in Kuroki, Yoshinori and Fukuchi disclose all of the subject matter recited in claims 3-4. This rejection is respectfully traversed.

Kuroki and Yoshinori are discussed above. Fukuchi discloses a behavior controlling apparatus by which the mobility area of a robot is controlled by using landmarks. A landmark recognition unit recognizes the various landmarks and builds a map based on the geographical positions of the landmarks. The map is used to contain the mobility of the robot and to confine the robot to the area therein.

Claims 3-4 are dependent upon claim 1 and inherit all of the limitations thereof. As discussed above, the combination of Kuroki and Yoshinori fails to disclose or suggest all of the elements of claim 1. In addition, Fukuchi fails to cure the deficiencies in Kuroki and Yoshinori as Fukuchi also fails to disclose or suggest "wherein the sound or the voice from the means for controlling the outputting of a sound informs the subject about a situation regarding the distance to the subject, so as to prompt the subject to keep

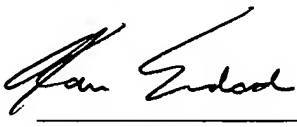
the distance from said movable robot to the subject at the predetermined distance", as recited in claim 1. Accordingly, the combination of Kuroki, Yoshinori and Fukuchi fails to disclose or suggest all of the elements of claims 3-4. Furthermore, claims 3-4 should be allowed for at least its dependence upon claim 1, and for the specific limitations recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1-11 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Replacement Figure 1 (1 sheet)

IN THE FIGURES:

The Amendment to the drawing (FIG. 1) is submitted on the one (1) enclosed replacement sheet.